UNDERSTANDING CAPITAL ASSET PRICING MODEL ANALYSIS IN DETERMINING RISK AND RETURN OF COMPANIES AT COSMETIC AND HOUSEHOLD SUB SECTOR AT INDONESIA STOCK EXCHANGE

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Abstract

Every country considered investment as their essential need in development of their country. Every country are in need and aspire to gain investment in every sub sector of industry given. In analyzing and measuring the kind of investment that are good and risky, there are many ways that can be done to measure it. This study aimed to measure and analyze Cosmetic and Household sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model. The sample used is active companies in stock transaction, such as: MRAT, MBTO, UNVR and TCID listed in Cosmetic and Household sub sectors. Based on the results of the study and after analyzing the cosmetic and household sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model, the study suggest that for stocks that are overvalued, it is recommended for investors to sell or release their stocks such as: TCID and MRAT. On the other hand for companies with undervalued stocks, the recommendation of the study is for investors to buy or purchase the stock such as MBTO and UNVR based on the period observed from December 2015 to July 2016.

Keywords**:** *Capital Asset Pricing Model, Return of Investment, Risk of Investment, Cosmetic and Household*

INTRODUCTION

Every country considered investment as their essential need in development of their country. Every country are in need and aspire to gain investment in every sub sector of industry given. In analyzing and measuring the kind of investment that are good and risky, there are many ways that can be done to measure it. One of the way to know is by looking at the level of capital market and securities in the country. Capital markets is a market where people are prepared to trade stocks, bonds and other types of securities with the services of brokerage (Anoraga & Pakarti, 2003; Tandelilin, 2010; Fahmi, 2014; SinarmasSekuritas, 2015).

Indonesia is a country with a prospect that in 2014 has found themselves with a new president, named Joko Widodo. The coming of a new elected president is probably insinuating investors to invest because of a new hope in a new leader of a developing country like Indonesia. Investing, essentially is buying an asset that in the future is expected be able to sell them back with a higher value. One of the main reasons we invest is to prepare for the future as early as possible through planning tailored to the needs of today's financial capability (Keown, Scott, Martin, Petty, 2001; Halim, 2005; Tandelilin, 2010).

In fact, the Indonesian people still prefer to keep their funds in the banking instruments in the form of savings and deposits than in investment instruments in the form of fixed income and stocks, although investment instruments offer higher returns than bank instruments (Siamat, 2004; Pratomo and Nugraha, 2009; Sinarmas Sekuritas, 2015). But because of the level of risk that must be borne in higher capital markets so they have to be careful in allocating funds (Sunariyah, 2004; Tandelilin, 2010).

Several methods of performance measurement using a certain size that has been adjusted to the level of risk has been developed by experts. The size of fund performance that is widely used in previous studies is the size of Sharpe, Treynor and Jensen or better known as the Method of Capital Asset Pricing Model (CAPM). This method can provide precise predictions about the relationship between the risk of an asset with the expected return as seen in previous research (Fama and French, 2003; Perold, 2004; Fama and French, 2004; Nasuha, 2013; Oke, 2013; Ruffino, 2013; Bunga, Darminto & Saifi, 2014). The use of the CAPM method for measuring a portfolio of mutual funds that can efficiently help to choose the right mutual fund portfolio, so that investors can achieve their investment objectives. This study aims to analyze and understand capital asset pricing model analysis in determining risk and return of companies at Cosmetic and Household sub sector at Indonesia Stock Exchange from December 2015 to July 2016 as pertain to recent year of the new president leadership.

RESEARCH METHOD

The method of the study used is descriptive where the data used collected, analyzed and presented in a descriptive manner. The date used were secondary data derived from monthly stock price, the interest rate of Bank Indonesia (BI) and Composite Index data. The sample used in the study are companies that are listed in the Cosmetic and Household Sub Sector listed in Indonesia Stock Exchange with company code as follows: MRAT, MBTO, UNVR and TCID. The sample obtained from the active companies traded during the observation period of month December 2015 to July 2016. The data was analyzed using Capital Asset Pricing Model method and SPSS software.

The Capital Asset Pricing Model analyze three indicators, they are:

1. Rate of Return of individual stock

$$Ri = \frac{(Pt - Pt\text{-}1)}{Pt\text{-}1}$$

The date used for Ri are taken from the montly closing price of individual stock from December 2015 to July 2016.

2.Rate of Return of the market

$$Rm = \frac{(IHSGt - IHSGt\text{-}1)}{IHSGt\text{-}1}$$

The date used for Rm are taken from the montly closing price of IHSG or Composite Index from December 2015 to July 2016.

3. Risk free rate of return (Rf)

The date used for Rf are taken from the montly interest rate of Bank Indonesia Rate from December 2015 to July 2016.

The data then used to calculate the risk of investment using Beta (systematic risk) and the return of investment using expected return (E(Ri)) formula to determine investment decision..

HASIL PENELITIAN DAN PEMBAHASAN

RATE OF RETURN (E (R))

Stock Price used is closing stock price at the end of the observation. So if investors buy or sell transaction on this day, the price will be obtained will be known on stock announcement the

next day, so the publication shares do every day can give an indication to the investors to make a decision to buy or sell. On this basis the average return on the shares of this study will be calculated based on the daily period as follows:

Table 2. Rate of Return of Investment (Ri)

No	Code	Ri	Return
1	MRAT	0.019	(+)
2	MBTO	0.033	(+)
3	UNVR	0.0312	(+)
4	TCID	-0.016	(-)

Table 1 shows each company observed that were listed in the Cosmetic and Household Tools sub sector at Indonesia Stock Exchange from December 2015 to July 2016. The table shows companies with negative rate of return and also positive rate of return, and as seen in the table three companies have positive return as seen in MRAT, MBTO, and UNVR in their rate of return of investment. However the company that shows negative return on 2016 is TCID.

MARKET RETURN (RM)

In this research to look for the market return as the benchmarks used are bond index. This is because the fixed income funds have a portfolio that is largely similar to the types of investment instruments from bond index. Market return is the cumulative profit rate that reflects all shares listed on the Stock Exchange in this case Composite Index.

Tabel 2: Market Return (Rm)

Month	Rm
Dec-15	0.03296
Jan-16	-0.16425
Feb-16	0.032861
Mar-16	0.015599
Apr-16	-0.00553
May-16	-0.00451
June-16	0.045817
July-16	0.039738
Rm 2016	-0.00575

Table 2 above shows that the market return of Composite Index from December 2013 to July 2016 with average market return (Rm) of 0.0394.

RISK FREE RATE OF RETURN (RF)

Risk-free rate of return is the compensation value of the fund deferred consumption, but not to assume the risk. Thus, the risk-free rate of return reflects the fundamental fact that by investing at this time means it will be able to consume more in the future. In this study, the risk-free rate of return is the interest rate of Bank Indonesia (BI). BI Rate is regarded as a safe instrument because it is published by the government.

Table 3: Risk Free Rate of Return (Rf)

Month	Rf
Dec-15	0.075
Jan-16	0.725
Feb-16	0.07
Mar-16	0.675
Apr-16	0.675
May-16	0.675
June-16	0.65
July-16	0.65
Rf 2016	0.0679

The table above shows results on BI rate during the observation period resulted in the risk free rate of 0.0679 for the period observed.

BETA ANALYSIS OF CAPITAL ASSET PRICING MODEL (CAPM)

Beta in the concept of Capital Asset Pricing Model (CAPM) is a systematic risk. The sensitivity of the rate of profit to market changes commonly referred to as beta investments. Beta in this study using market beta calculation derived from index bonds.

Table 4: CAPM Beta Analysis

No	Code	Beta	Type
1	MRAT	-0.186	D
2	MBTO	1.112	A
3	UNVR	1.705	A
4	TCID	1.026	L

Table 5:CAPM Expected Return Analysis

No	Code	E (R)	Ri	Evaluation
1	MRAT	0.078	0.019	Overvalued
2	MBTO	0.012	0.033	Undervalued
3	UNVR	-0.018	0.0312	Undervalued
4	TCID	0.016	-0.016	Overvalued

Based on the table 4 above it shows that three companies have Beta above one which means that the stock is Aggressive (A) type and are easily changes and highly fluctuates. However, the remaining one company, MRAT shows that has Beta below 1 which means it has Defensive (D) type of stocks and not easily changes with the change in Composite Index or IHSG. Table 5 above shows the Expected Return analysis of the stock at Cosmetic and Household Tools sub sector are positive for MRAT, MBTO and UNVER and negative for TCID. The analysis further compared the expected return and Ri of the company [(Ri) > E(Ri)]. The results shows two companies in year 2016, has overvalued or bad return and MBTO and UNVR stock are good

or undervalued, meaning their return are above their expectation based on CAPM Analysis December 2015 to July 2016.

CONCLUSION AND SUGGESTION

Based on the results of the study and after analyzing the cosmetic and household sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model, the study suggest that for stocks that are overvalued, it is recommended for investors to sell or release their stocks such as: TCID and MRAT. On the other hand for companies with undervalued stocks, the recommendation of the study is for investors to buy or purchase the stock such as MBTO and UNVR. The CAPM method analysis is suggested to be expanded by future researcher with different sectors or indexed.

REFERENCE

- Anoraga, P., and P. Pakarti. (2003). Pengantar Pasar Modal. Jakarta: Rineka Cipta.
- Bunga, E.S., Darminto and M. Saifi. (2014). Analisis Metode Capital Asset Pricing Model (CAPM) sebagai Dasar Pengambilan Keputusan Investasi Saham. Jurnal Administrasi Bisnis, Vol. 17 No. 2.
- Fahmi, I. (2014). Teori Portofolio dan Analisa Investasi. Alfabeta.
- Fama, E. F., and K. R. French. (2003). The Capital Asset Pricing Model: Theory and Evidence. CRSP Working Paper No. 550; Tuck Business School Working Paper No. 03-26. Available at SSRN: http://ssrn.com/abstract=440920 or http://dx.doi.org/10.2139/ssrn.440920
- Fama, E. F., and K. R. French. (2004). The Capital Asset Pricing Model: Theory and Evidence. Journal of Economic Perspectives, 18(3): 25-46.
- Halim, A. (2005). Analisis Investasi (EdisiKedua). Jakarta: SalembaEmpat.
- Keown, A. J., Scott, D. F., Martin, J. D., J. W. Petty. (2001). Dasar-dasar Manajemen Keuangan (Edisi Ketujuh). Jakarta: Salemba Empat.
- Nasuha, R. (2013). Analisa Metode Capital Asset Pricing Model Dalam Upaya Pengambilan Keputusan Terhadap Investasi Saham. Jurnal Administrasi Bisnis, Vol 5 No. 1. Universitas Brawijaya.
- Oke, B. O. (2013). Capital Asset Pricing Model (CAPM): Evidence from Nigeria. Research Journal of Finance and Accounting, Vol. 4. No. 9.
- Perold, A. F. (2004). The Capital Asset Pricing Model. Journal of Economic Perspectives, Vol. 18, No. 3, pp. 3-24. Retrieved from http://www.personal.umich.edu/~kathrynd/JEP.Perold.pdf.
- Pratomo, E. P.,and U. Nugraha. (2009). Reksa Dana Solusi Perencanaan Investasi di Era Modern (Edisi Kedua). Jakarta: PT. Gramedia Pustaka Utama.
- Ruffino, D. (2013). A Robust Capital Asset Pricing Model. Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, Washington, D.C. Retrieved from http://www.federalreserve.gov/pubs/feds/2014/201401/201401pap.pdf
- Siamat, D. (2004). Manajemen Lembaga Keuangan. Edisi Keempat. Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.
- Sinarmas Sekuritas. (2015).Edukasi Pasar Modal. Retrieved from http://www.sinarmassekuritas.co.id/id/edukasi.asp
- Sunariyah. (2004). Pengantar Pengetahuan Pasar Modal (Edisi Keempat). Yogyakarta: UPP AMP YKPN.
- Tandelilin, E. (2010). Analisis Investasi dan Manajemen Portofolio. Yogyakarta: BPFE.